



IAPG Rec'd PCT/PTO 07 APR 2006 PCT

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 05-820)

In the Application of:

Haskell

Serial No.: 10/551,798

Filed: September 30, 2005

Title: Phased Array Antenna System with
Variable Electrical Tilt

Art Unit: Unknown

Examiner: Not Assigned

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

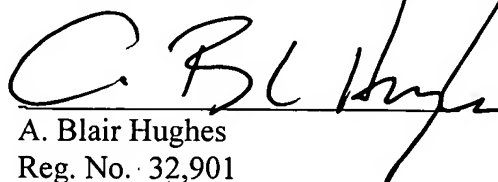
Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

1. We are transmitting herewith the attached:
 - a. Information Disclosure Statement
 - b. Statement of Relevancy of Foreign Language Reference
 - c. Copy of Cited Non-U.S. Patent References
 - d. Return Receipt Postcard
2. With respect to additional fees:
 - a. Attached is a check in the amount of \$-0-
3. Please charge any additional fees or credit overpayment to Deposit Account No.13-2490. A duplicate copy of this sheet is enclosed.
4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 4th day of April, 2006.

By :


A. Blair Hughes
Reg. No. 32,901

McDONNELL BOEHNEN,
HULBERT & BERGHOFF LLP
300 SOUTH WACKER DRIVE
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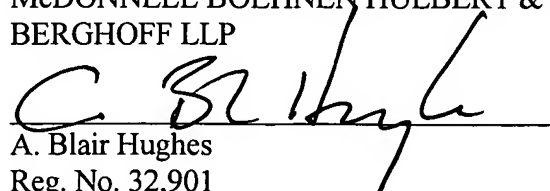
The JP 61172411 reference was cited in an Opposition of European patent application EP 1 239 534 by Radiation Y Microondas, S. A. The reference was cited as disclosing "a multi-stage linear array antenna which pretends to increase the beam tilting effect by setting the first phase shifter for each exciting elements so as to give a beam tilting angle larger than a required value and obtaining a required beam tilting angle by the combined phase shift by the first and second phase shifters so as to reduce a side lobe level produced during prorogation."

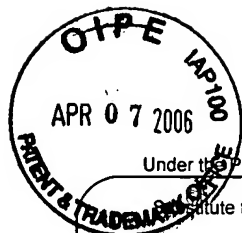
The Okuyama et al. reference was cited in an Opposition of European patent application EP 1 239 534 by Radiation Y Microondas, S. A. The reference was cited as disclosing "a base station antenna products that integrate technologies for beam forming, wind-load shedding and beam tilting. Its drawings show antenna structures serving 120° sectors and phase shifting arrangements."

Respectfully submitted,
McDONNELL BOEHNEN HULBERT &
BERGHOFF LLP

Dated: April 4, 2006

By:


A. Blair Hughes
Reg. No. 32,901



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Institute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 7

Complete if Known

Application Number	10/551,798
Filing Date	September 30, 2005
First Named Inventor	Haskell
Art Unit	Unknown
Examiner Name	Not Assigned
Attorney Docket Number	05-820

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 2,041,600	5-19-36	Friis	
		US- 2,239,775	3-2-39	Bruce	
		US- 2,245,660	10-12-38	Feldman et al.	
		US- 2,247,666	8-2-39	Potter	
		US- 2,961,620	11-22-60	Sommers	
		US- 3,277,481	10-4-66	Robin et al	
		US- 3,522,558	1-13-69	Stafford et al.	
		US- 4,241,352	12-23-80	Alspaugh et al	
		US- 4,249,181	2-3-81	Lee	
		US- 4,788,515	11-29-88	Wong et al.	
		US- 4,881,082	11-14-89	Graziano	
		US- 5,281,974	1-25-94	Kuramoto et al.	
		US- 4,905,012	2-27-90	Foti	
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁵
		Country Code ³ "Number" ⁴ "Kind Code" ⁵ (if known)				
		WO 89/07837	8-24-89	Wong et al.		
		WO 92/16061	9-17-92	Kangas		
		WO 93/15569	8-5-93	Franza et al.		
		WO 95/10862	4-20-95	Butland et al.		
		EP 0 531 090	3-29-00	Fujil et al.		

Examiner Signature	Date Considered
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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First Named Inventor	Haskell
Art Unit	Unknown
Examiner Name	Not Assigned
Attorney Docket Number	05-820

(Use as many sheets as necessary)

Sheet	2	of	7
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FOREIGN PATENT DOCUMENTS						
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		Country Code ³ "Number" ⁴ "Kind Code" ⁵ (if known)				
		EP 0 575 808	12-29-93	Hadzoglou et al.		
		GB 1 314 693	4-26-73			
		AU 38746/93	7-29-93	Butland et al.		
		AU 664625	11-23-95	Mews		
		JP 02-174302 - abstract	7-5-90	Nippon Telegraph		

Date
Considered

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 4

of 7

Application Number	10/551,798
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Filing Date	September 20, 2005
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First Named Inventor	Haskell
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Art Unit	Unknown
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Examiner Name	Not Assigned
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U. S. PATENT DOCUMENTS

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		Country Code ³ "Number" ⁴ "Kind Code" ⁵ (if known)				
		JP 05-121915	5-18-93	Sumitomo Electric		
		JP 61-172411	8-4-86			
		JP 61-006901	1-13-86	Kokusai Denshin		X
		JP 140985	5-20-94	Fujitsu Ltd		X
		JP 06-196927	7-15-94	NTT Idou Tsuushinmou		X

Examiner
Signature

Date
Considered

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 5

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Complete if Known

Application Number	10/551,798
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First Named Inventor	Haskell
Art Unit	Unknown
Examiner Name	Not Assigned
Attorney Docket Number	05-820

U. S. PATENT DOCUMENTS

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		Country Code ³ "Number" ⁴ "Kind Code" ⁵ (if known)				
		JP 06-260823	9-16-94	Mitsubishi Electric		X
		JP 06-326501	11-25-94	Sumitomo Electric		X
		GB 2 034 525	6-4-80	Marconi Company		
		WO 01/29926	4-26-01	Deltac Telesystems		
		WO 03/036756	5-1-03	QinetiQ Ltd.		

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**INFORMATION DISCLOSURE
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Sheet 6

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Examiner Name	Not Assigned
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		Number-Kind Code ² (if known)			
		US-			
		US-			
		US-			
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		US-			
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		Country Code ³ "Number" ⁴ "Kind Code" ⁵ (if known)				
		WO 03/043127	5-22-03	Qinetiq Ltd.		
		EP 1 026 778	8-9-00	Lucent		
		JP 2001-211025 – English Abstract		NTT IDO		
		JP 09-148835 – English Abstract	6-6-97	Nippon		

Examiner Signature		Date Considered	
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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/551,798
		Filing Date	September 30, 2005
		First Named Inventor	Haskell
		Art Unit	Unknown
		Examiner Name	Not Assigned
Sheet 7	of 7	Attorney Docket Number	05-820

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Strickland, Peter "Microstrip Base Station Antennas for Cellular Communications", IEEE, pp. 166-171 (1991)	
		Bacon, "Variable Elevation Beam-Aerial Systems for 1 1/2 Metres", Journal IEE, pp. 539-544 (1946)	
		Forster, et al. "A Conical Beam Ship Array Antenna with Infinitely Variable Control of the Elevation Angle", pp. 17-20 (1973)	
		Hansen, "Microwave Scanning Antennas" Vol. 3 Array Systems, pp. 2-7 (1966)	
		Smith, textbook: "Circuits, Devices and Systems", A First Course in Electrical Engineering", 4 th Ed., pp. 680-681 (1984)	
		Okuyama et al., "Base-Station Antenna Systems for Car and Handheld Cellular Phones", Mitsubishi Denki Giho, Vol. 68, no. 12, pp. 23-26 (1994)	
		Sumitomo Technical Review, September (1993)	X
		Brochure, "Brown Boveri Phaser for the Horizontal Slewing of Curtain Antennas", Boveri & Cie AG, Mannheim, RFA Classif. n° 1601/242	
		CEL-901 Cellular Antenna Controller User's Manual", issued on 2 April 1992, in the name of CAL Corporation (1991)	

Examiner Signature	Date Considered
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